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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,513	08/29/2001	Yasushi Sawamura	0599-0207P	7250

2292 7590 01/15/2003

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EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,513

Applicant(s)

SAWAMURA ET AL.

Examiner

Christopher M. Keehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,12-17,20-29 and 32-36 is/are rejected.
- 7) ☒ Claim(s) 2,9-11,18,19,30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/945,221.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I in Paper No. 4 is acknowledged. The traversal is on the ground(s) that there is no significant burden on the Examiner to examine all the claims; and the Examiner agrees with Applicant. Therefore, all the claims have been examined in the case.

Claim Objections

Claim 1 is objected to because of the following informalities: Applicant has included "(IV)" in this claim, which appears to be addressed in the parent application. Appropriate correction is required.

Claims 1, 7, 17, and 26 are objected to because of the following informalities: it is requested that the phrase "being constituted by" be replaced by "comprising" to adhere to more conventional claim language and eliminate the possibility of any indefiniteness.

Claims 15-24 are objected to because of the following informalities: the use of the phrase "TAB" is a bit confusing as it has not been defined in the claims. Perhaps supplying a definition of "TAB" at the first occurrence would help.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 3 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a terpene skeleton-containing epoxy resin, does not reasonably provide enablement for the structure of a terpene skeleton-containing epoxy resin. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The structure as set forth in the specification for a terpene skeleton-containing epoxy resin does not appear to contain a terpene structure. The Examiner is basing this on the definition of terpene at *wordreference.com* that states that "terpene is any one of a class of unsaturated hydrocarbons, such as limonene, pinene, and the carotenes, that are found in the essential oils of many plants, especially conifers. Their molecules contain isoprene units and have the general formula $(C_5H_8)_n$." This isoprene structure does not appear to be disclosed in the specification and in claim 3.

Claims 13, 14, 24, 25, 35, and 36 provide for the use of an adhesive sheet (13), a semiconducting substrate (14 and 25) and an adhesive backed tape (24, 35 and 36), but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 13, 14, 25, 35 and 36 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process,

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results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's use of "resol type phenol resin" renders the claim indefinite. The addition of the word "type" to an otherwise definite expression (e.g., Friedel-Crafts catalyst) extends the scope of the expression so as to render it indefinite. *Ex parte Copenhaver*, 109 USPQ 118 (Bd. App. 1955). Likewise, the phrase "ZSM-5-type aluminosilicate zeolites" was held to be indefinite because it was unclear what "type" was intended to convey. *Ex parte Attig*, 7 USPQ2d 1092 (Bd. Pat. App. & Inter. 1986).

Claims 15, 16, 23, and 26-34 recite the limitation "an adhesive backed tape" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "a semiconductor device" in claim 13. There is insufficient antecedent basis for this limitation in the claim.

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Claim 36 recites the limitation "a semiconductor device" in claim 35. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 8, 12, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sei et al. (5,523,137). Regarding claim 1, Sei et al. disclose an adhesive sheet comprising a laminate having an adhesive layer, wherein the adhesive layer contains a thermoplastic resin (col.3, lines 60-67). The adhesive layer also contains an epoxy compound of a dicyclopentadiene skeleton-containing epoxy resin as dicyclopentadiene dioxide (also known as dicyclopentadiene diepoxide) (col.6, lines 16-25).

Regarding claims 7 and 17, Sei et al. disclose an insulator layer and a conductor pattern, one layer without any conductor pattern formed, and one adhesive layer (col.7, lines 26-29), wherein the adhesive layer is as set forth above.

Regarding claim 8, Sei et al. disclose wherein the thermoplastic resin is a copolymer containing butadiene as an essential monomer (col.3, lines 60-67).

Regarding claims 12 and 20, Sei et al. disclose a phenolic resin (col.7, lines 36-40).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 15, 16, 20, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. (5,827,908). Regarding claims 1 and 4, Arai et al. disclose an adhesive sheet comprising a laminate (Figure 1 and col.18, lines 13-21) having an adhesive layer on a substrate, wherein the adhesive layer can contain a thermoplastic resin (col.15, lines 49-56), a biphenyl skeleton-containing epoxy resin (col.7, lines 39-col.9, lines 30) and a cyclopentadiene skeleton-containing epoxy resin (col.9, lines 58-65).

Regarding claims 5, 6, 15, 16, and 26-28, Arai et al. do not appear to disclose the instantly claimed properties. However, as the materials of Arai et al. are the same as those claimed by Applicant, and the ranges of claimed values is so broad, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have achieved at least similar results, because the materials of Arai et al. are at least similar to those of Applicant, and at least similar materials would have been expected to yield at least similar properties.

Regarding claim 20, Arai et al. disclose a phenol resin (col.13, lines 31-37).

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Claims 5, 6, 15, 16, 21-23, 26-29, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sei et al. (5,523,137). Sei et al., as applied above, are as set forth and incorporated herein. Regarding claims 5, 6, 15, 16, and 26-28, Sei et al. do not appear to disclose the instantly claimed properties. However, as the materials of Sei et al. are the same as those claimed by Applicant, and the ranges of claimed values is so broad, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have achieved at least similar results, because the materials of Sei et al. are at least similar to those of Applicant, and at least similar materials would have been expected to yield at least similar properties.

Regarding claims 23 and 34, Sei et al. disclose an organic insulating film of polyimide (col.11, lines 21 and 22).

Regarding claim 29, Sei et al. disclose an amount of epoxy resin included in the instantly claimed range (Example 1).

Regarding claims 21, 22, 32, and 33, Sei et al. disclose a phenolic resin (col.7, lines 36-40). Sei et al. do not appear to specifically disclose the instantly claimed limitations of phenol resin amount and the ratio relationship. However, as Applicant has shown no criticality to the instantly claimed limitations in the specification, and Sei et al. disclose the same phenolic compounds as Applicant (col.9, lines 7-22), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the phenolic component in a variety of amounts and achieve the instantly claimed ratio through routine experimentation and optimization. It has been held that where the general conditions are disclosed in the prior art, it is not inventive to discover

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the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233, 235.

Allowable Subject Matter

Claims 2, 9-11, 18, 19, 30 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. A reasonable search of the prior art of record failed to reveal the limitations as set forth therein. Regarding claim 2, Arai et al. disclose dicyclopentadiene-phenol novolak epoxy resins, but Applicant's structure does not allow for phenolic substituents. Regarding claims 9-11, 18, 19, 30, and 31, neither Arai et al. nor Sei et al. teach or disclose the instantly claimed thermoplastic resin.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (703) 305-2778. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on 308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Christopher Keehan *CMK*

January 10, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700